

## Claims

We claim:

1. A computer-implemented method for creating a graphical program, the  
5 method comprising:  
receiving user input specifying one or more nodes to include in the graphical  
program;  
including the one or more specified nodes in the graphical program; and  
providing one or more suggested nodes to include in the graphical program, based  
10 on the one or more nodes specified by the user input.
2. The method of claim 1,  
wherein the graphical program comprises a block diagram portion and a user  
interface portion.  
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3. The method of claim 1,  
wherein the graphical program comprises a graphical data flow program.
4. The method of claim 1, further comprising:  
20 interconnecting nodes included in the graphical program to visually indicate  
functionality of the graphical program.
5. The method of claim 1,  
wherein said providing the one or more suggested nodes comprises displaying the  
25 one or more suggested nodes.
6. The method of claim 5,  
wherein said displaying the one or more suggested nodes comprises displaying the  
one or more suggested nodes on a suggestion palette.

7. The method of claim 5,  
wherein said displaying the one or more suggested nodes comprises displaying the  
one or more suggested nodes as shadow nodes that follow a mouse cursor.

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8. The method of claim 1, further comprising:  
receiving user input requesting to include a first suggested node in the graphical  
program; and  
including the first suggested node in the graphical program.

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9. The method of claim 1, further comprising:  
automatically including the one or more suggested nodes in the graphical  
program.

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10. The method of claim 1, further comprising:  
determining the one or more suggested nodes.

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11. The method of claim 10,  
wherein said determining the one or more suggested nodes comprises determining  
that the one or more suggested nodes are necessary to complete an operation performed  
by the one or more nodes specified by the user input.

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12. The method of claim 10,  
wherein said determining the one or more suggested nodes comprises performing  
an algorithm to determine the one or more suggested nodes based on the one or more  
nodes specified by the user input.

13. The method of claim 12,

wherein the algorithm is hard-coded to always determine the one or more suggested nodes in response to the one or more nodes specified by the user input.

14. The method of claim 12,

5 wherein the algorithm is operable to determine the one or more suggested nodes based on previously stored data regarding nodes that frequently occur in graphical programs along with the one or more nodes specified by the user input.

15. The method of claim 10,

10 wherein said determining the one or more suggested nodes comprises determining that the one or more suggested nodes frequently appear in graphical programs that include the one or more specified nodes.

16. The method of claim 10,

15 wherein said determining the one or more suggested nodes comprises performing an artificial intelligence heuristic to determine the one or more suggested nodes based on the one or more nodes specified by the user input.

17. The method of claim 1, further comprising:

20 receiving user input specifying suggestion criteria;

determining the one or more suggested nodes based on the one or more nodes specified by the user input and based on the suggestion criteria.

18. The method of claim 1,

25 wherein the graphical program is operable to perform one or more of:

an industrial automation function;

a process control function;

a test and measurement function.

19. A memory medium for creating a graphical program, the memory medium comprising program instructions executable to:

5 receive user input specifying one or more nodes to include in the graphical program;

include the one or more specified nodes in the graphical program; and

provide one or more suggested nodes to include in the graphical program, based on the one or more nodes specified by the user input.

10 20. The memory medium of claim 19,

wherein the graphical program comprises a block diagram portion and a user interface portion.

21. The memory medium of claim 19,

15 wherein the graphical program comprises a graphical data flow program.

22. The memory medium of claim 19,

wherein said providing the one or more suggested nodes comprises displaying the one or more suggested nodes.

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23. The memory medium of claim 22,

wherein said displaying the one or more suggested nodes comprises displaying the one or more suggested nodes on a suggestion palette.

25 24. The memory medium of claim 19, further comprising program instructions executable to:

receive user input requesting to include a first suggested node in the graphical program; and

include the first suggested node in the graphical program.

25. The memory medium of claim 19, further comprising program instructions executable to:

automatically include the one or more suggested nodes in the graphical program.

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26. The memory medium of claim 19, further comprising program instructions executable to:

determine the one or more suggested nodes.

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27. The memory medium of claim 26,

wherein said determining the one or more suggested nodes comprises determining that the one or more suggested nodes are necessary to complete an operation performed by the one or more nodes specified by the user input.

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28. The memory medium of claim 26,

wherein said determining the one or more suggested nodes comprises performing an algorithm to determine the one or more suggested nodes based on the one or more nodes specified by the user input.

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29. The memory medium of claim 26,

wherein said determining the one or more suggested nodes comprises determining that the one or more suggested nodes frequently appear in graphical programs that include the one or more specified nodes.

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30. The memory medium of claim 26,

wherein said determining the one or more suggested nodes comprises performing an artificial intelligence heuristic to determine the one or more suggested nodes based on the one or more nodes specified by the user input.

31. A system for creating a graphical program, the system comprising:  
a memory medium storing program instructions;  
a processor;

5 wherein the processor is operable to execute the program instructions to:  
receive user input specifying one or more nodes to include in a graphical  
program;  
include the one or more specified nodes in the graphical program; and  
display one or more suggested nodes to include in the graphical program,  
10 based on the one or more nodes specified by the user input.

32. The system of claim 31, wherein the processor is further operable to  
execute the program instructions to:

receive user input requesting to include a first suggested node in the graphical  
15 program; and  
include the first suggested node in the graphical program.

33. The system of claim 31,

wherein said displaying the one or more suggested nodes comprises displaying the  
20 one or more suggested nodes on a suggestion palette.

34. A computer-implemented method for creating a graphical program, the  
method comprising:

displaying a graphical programming window for creating a graphical program;  
25 displaying one or more nodes in the window in response to user input;  
determining one or more suggested nodes in response to the user input; and  
displaying the one or more suggested nodes.

35. A computer-implemented method for creating a graphical user interface for a graphical program, the method comprising:

displaying a window for creating the graphical user interface for the graphical program;

5 displaying one or more user interface elements in the window in response to user input;

determining one or more suggested user interface elements in response to the user input; and

displaying the one or more suggested user interface elements.

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36. A computer-implemented method for creating a script, the method comprising:

receiving user input specifying one or more steps to include in the script;

including the one or more specified steps in the script; and

15 providing one or more suggested steps to include in the script, based on the one or more steps specified by the user input.

37. The method of claim 36,

wherein the steps comprise image processing steps;

20 wherein the script is operable to perform an image processing process.